**Appendix 1: Health conditions and ICD-10 codes defining the Motor-vehicle-related hospitalizations (MVC)**

|  |  |
| --- | --- |
| **Condition** | **ICD-10** |
| Car occupant injured in transport crash | V40\*-V49\* |
| Occupant of pick-up truck or van injured in transport crash | V50-V59 |
| Occupant of heavy transport vehicle injured in transport crash | V60-V69 |

\*The following fourth-character subdivisions are for use with categories V40-V48

|  |
| --- |
|  |
| **.0** | **Driver injured in nontraffic crash** |
| **.1** | **Passenger injured in nontraffic crash** |
| **.2** | **Person on outside of vehicle injured in nontraffic crash** |
| **.3** | **Unspecified car occupant injured in nontraffic crash** |
| **.4** | **Person injured while boarding or alighting** |
| **.5** | **Driver injured in traffic crash** |
| **.6** | **Passenger injured in traffic crash** |
| **.7** | **Person on outside of vehicle injured in traffic crash** |
| **.9** | **Unspecified car occupant injured in traffic crash** |

Legend:

ICD-10: International Classification of Diseases, Tenth Revision

**Appendix 2: Stratification of Authorized and Unauthorized Adult Patients by Age, Sex, Rural/Urban**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Outcome** | **Authorized** | | | | **Unauthorized** | | | | **Difference** | | | |
| **Immediate change\*** | | **Temporal change\*\*** | | **Immediate change\*** | | **Temporal change\*\*** | | **Immediate change\*** | | **Temporal change\*\*** | |
| Events/  10,000 patients | p-value | Events/  10,000 patients | p-value | Events/10,000 patients | p-value | Events/  10,000 patients | p-value | Events/  10,000 patients | p-value | Events/  10,000 patients | P-value |
| Motor-vehicle related hospitalization or ER visit | -3.15 | 0.3988 | 0.50 | 0.6102 | -2.38 | 0.2879 | -0.31 | 0.6405 | -2.42 | 0.0138 | 0.889 | 0.0019 |
| Age |  |  |  |  |  |  |  |  |  |  |  |  |
| <30 | 2.42 | 0.7479 | -1.99 | 0.3082 | 1.45 | 0.7717 | -2.59 | 0.0807 | 3.36 | 0.7622 | -0.037 | 0.9897 |
| 31 to 60 | -2.69 | 0.3049 | 1.23 | 0.0796 | -3.57 | 0.1370 | 0.42 | 0.4885 | 0.52 | 0.9550 | 0.56 | 0.8143 |
| >60 | -3.27 | 0.2696 | -0.27 | 0.7182 | 0.47 | 0.9126 | -0.54 | 0.6747 | -5.09 | 0.6128 | 0.23 | 0.9432 |
| Sex |  |  |  |  |  |  |  |  |  |  |  |  |
| Male | -0.99 | 0.7140 | -0.60 | 0.5060 | -4.30 | 0.0419 | -1.24 | 0.0327 | 18.94 | 0.5903 | 7.14 | 0.5987 |
| Female | 4.31 | 0.3496 | 1.67 | 0.2653 | 1.28 | 0.5981 | 1.10 | 0.1297 | 23.83 | 0.4015 | 7.43 | 0.7924 |
| Urban/Rural |  |  |  |  |  |  |  |  |  |  |  |  |
| Urban | -3.08 | 0.3364 | 0.087 | 0.9152 | -2.13 | 0.2959 | -0.19 | 0.7328 | -5.12 | 0.2229 | 1.50 | 0.0403 |
| Rural | 0.71 | 0.9469 | 3.08 | 0.2923 | 1.16 | 0.7347 | -0.39 | 0.6666 | -6.83 | 0.6224 | 2.69 | 0.2782 |

Legend:

ER: Emergency room

**Appendix 3: ICD codes by Case and Control in Motor-Vehicle Crashes**

|  |  |  |
| --- | --- | --- |
| MVC ICD DX code | Control | Case |
| V405 | 3 | 3 |
| V430 | 3 | 3 |
| V431 | 0 | 1 |
| V434 | 1 | 1 |
| V435 | 159 | 141 |
| V436 | 40 | 46 |
| V437 | 1 | 0 |
| V439 | 9 | 5 |
| V445 | 4 | 14 |
| V446 | 0 | 1 |
| V455 | 1 | 0 |
| V460 | 1 | 0 |
| V465 | 1 | 0 |
| V470 | 3 | 4 |
| V471 | 1 | 1 |
| V475 | 20 | 18 |
| V476 | 1 | 2 |
| V480 | 1 | 1 |
| V481 | 0 | 3 |
| V482 | 1 | 2 |
| V483 | 1 | 0 |
| V484 | 6 | 5 |
| V485 | 11 | 9 |
| V486 | 4 | 8 |
| V489 | 1 | 2 |
| V490 | 0 | 1 |
| V493 | 0 | 1 |
| V494 | 10 | 12 |
| V495 | 7 | 4 |
| V496 | 2 | 4 |
| V498 | 2 | 0 |
| V499 | 9 | 17 |
| V505 | 1 | 0 |
| V530 | 1 | 0 |
| V532 | 0 | 1 |
| V535 | 8 | 4 |
| V536 | 0 | 3 |
| V539 | 0 | 1 |
| V545 | 0 | 2 |
| V546 | 1 | 0 |
| V575 | 1 | 1 |
| V581 | 0 | 1 |
| V584 | 6 | 3 |
| V585 | 1 | 1 |
| V586 | 3 | 1 |
| V594 | 1 | 0 |
| V595 | 0 | 1 |
| V596 | 1 | 0 |
| V599 | 1 | 0 |
| V645 | 1 | 0 |
| V675 | 1 | 0 |
| V681 | 0 | 1 |
| V684 | 1 | 2 |
| V685 | 3 | 1 |
| V687 | 1 | 0 |
| V698 | 0 | 1 |
| TOTAL | 335 | 333 |

**Legend:**

**ICD: International Classification of Diseases**